

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of:

Darrell H. Reneker et al.

Serial No: 10/597,901

Filed: April 23, 2007

For: STENT FOR USE IN CARDIAC,  
CRANIAL, AND OTHER ARTERIES

) Group Art Unit: 3734

) Confirmation No: 7722

) Examiner: Erin L. Colello

) **CERTIFICATE OF ELECTRONIC**  
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)   
) Daniel J. Schlue

**REPLY TO OFFICE ACTION DATED NOVEMBER 23, 2010**

Mail Stop: Amendment  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is responsive to the Office Action dated November 23, 2010, for which a three (3) month period of response was given. A petition, a fee for a three (3) month extension of time accompanies this paper. The Applicants, by and through their attorney, respond as follows.

**Amendment to the Claims** are reflected in the Listing of The Claims that begin on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

### **LISTING OF THE CLAIMS**

Claim 1 (previously presented) A stent comprising:

a stent member;

a release layer, wherein the stent member is coated with the release layer;

and

an insoluble fibrous component,

wherein the insoluble fibrous component is wrapped around the stent, and wherein the insoluble fibrous component forms a reinforcing thrombus plug upon degradation of the release layer, and wherein the insoluble fibrous component is secured in place during implantation by the release layer, the release layer being designed to degrade only after implantation of the stent is complete.

Claim 2 (original) The stent of claim 1, wherein the insoluble fibrous component comprises at least one nanofiber.

Claim 3 (previously presented) The stent of claim 1, wherein the insoluble fibrous component comprises a compound selected from poly(caprolactone), polyethylene terephthalate, fibrinogen, polyolefins, polyethylene, polypropylene, linear poly(ethylenimine), cellulose acetate, grafted cellulose, poly (L-lactic acid), poly (ethyleneoxide), poly (hydroxyethylmethacrylate), poly (glycolic acid), poly vinylpyrrolidone, polyethylene glycol, polyethylene oxazoline, polyester, polyacrylic acid, polyacrylic acid esters, polyphosphazines, polycyanoacrylate, polyvinyl amines, polyethylene imines, polyethylene amines, polyacrylamides, cellulose, polyorthoesters, polyanhydrides, polyketals, polyacetals, polyureas, and polycarbonate.

Claim 4 (original) The stent of claim 1, wherein the insoluble fibrous component comprises a thrombogenic material that initiates the formation of a thrombus.

Application Number:	10/597,901
Amendment Dated:	May 23, 2011
Office Action Dated:	November 23, 2010

Claim 5 (previously presented) The stent of claim 4, wherein the thrombogenic material at least partially blocks the entrance to a structure selected from an aneurysm, a fistula, and an opening in a blood vessel wall.

Claims 6-15 (canceled)

Claim 16 (previously presented) A method for using the stent of claim 1, the method comprising the step of implanting the stent in a living organism.

Claims 17-42 (canceled)

## **REMARKS**

### **35 U.S.C. § 102**

In addition to Applicant's previous arguments that were presented in the last Office Action Response/Reply, Applicant also argues that Lau et al. doesn't teach the claimed structure.

In Figure 11, Lau et al. teach a three-layered structure having an outermost stent layer 220, a middle fibrous layer 222, and an inner tubular component layer 224. As a result of the disclosed arrangement of layers in Lau et al.'s Figure 11, at least some of the distinctions between Applicant's claimed subject matter and Lau et al. are:

- 1) the claimed fibrous component is wrapped around the stent, but Lau et al. teach the fibrous component positioned inside the stent. In other words, the fibrous layers are in different positions relative to the stent- one is outside and the other is inside;
- 2) the claimed fibrous component forms a reinforcing thrombus plug (because the fibrous component is wrapped around the stent, i.e., on the outer surface of the stent), but Lau et al. couldn't possibly teach a fibrous plug because Lau et al. teaches the positioning of a fibrous layer inside of the stent, i.e., a middle fibrous layer;
- 3) Lau et al. doesn't teach a release (middle) layer that is between the stent and the (outer) fibrous layer. Instead, Lau et al. teaches the middle layer a being a fibrous layer 222;
- 4) Lau et al. doesn't teach a release layer that degrades only after implantation. Although the Office Action has found that "(Ref 224 ...)" is a release layer, Lau et al. teaches otherwise. Lau et al. teaches that element 224 is a tubular component (col. 24 line 64).

Application Number:	10/597,901
Amendment Dated:	May 23, 2011
Office Action Dated:	November 23, 2010

### **35 U.S.C. § 103(a)**

Because claim 2 is dependent on claim 1, and claim 1 has been shown to be distinct from Lau et al., Applicant argues that claim 2 is not obvious over Lau et al. Again, Lau et al. doesn't teach the claimed elements, and it appears there is nothing to suggest using nanofibers in combination with the teachings of Lau et al.

### **Conclusion**

In light of the above remarks, Applicant asks the Examiner to issue a notice of allowance for the pending claims.

Application Number: 10/597,901  
Amendment Dated: May 23, 2011  
Office Action Dated: November 23, 2010

Should the Examiner wish to discuss any of the foregoing in more detail, please call the undersigned attorney.

Respectfully submitted,



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